

"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/780,522 Confirmation No. 1371
Applicant : Muruganandam , Natarajan
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Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

AFFIDAVIT UNDER 37 CFR § 1.132

Sir:

I, Natarajan Muruganandam declare as follows:

I am a co-inventor of the subject matter claimed and described in the above-identified patent application. The purpose of this Declaration is to demonstrate that the claimed order of addition of components in preparing the spray dried composition is an unexpected improvement over the prior art cited by the Examiner.

First, with respect to the data in the instant Application, I am confident that the data presented demonstrates and discloses the advantage of the present invention. In particular, Example 5 shows that the particular order of first blending/mixing the oil and

lighter hydrocarbon, then adding the solid catalyst material, reduced foaming of the composition and reduced solid chunks that are formed in the composition, making it more suitable for use as a catalyst composition.

Further, under my direction and control, or under the direction and control of those working in cooperation with me, other experiments were conducted to show that an alternate order of addition of components does not show the same results. This is summarized below, where "HN5Zr" and "X" has the same meaning as in the patent application:

Experiment 1—Solid spray dried HN5Zr/X at a ratio of 4 to 2 (150 grams) was added to oil, followed by addition of hexane. The final weight percentage of components was 25 wt% solid catalyst, 65 wt% oil, and 10 wt% hexane. The resulting composition comprised chunks of solid that did not dissolve. This was repeated, with the same result.

Experiment 2—Solid spray dried HN5Zr/X at a ratio of 4 to 2 (150 grams) was added to oil, followed by additional hexane as in Experiment 1. Chunks of solid formed. More hexane and oil was added, which did not remove or reduce the chunks. The final weight percentage of components was 19.7 wt% solid catalyst, 70 wt% oil, and 10.3 wt% hexane. The resulting composition comprised chunks of solid that did not dissolve.

Experiment 3—Oil and hexane were mixed, followed by addition of solid spray dried HN5Zr/X at a ratio of 4 to 2 (37.5 grams) to the hexane/oil mixture. The final weight percentage of components was 25 wt% solid catalyst, 65 wt% oil, and 10 wt% hexane. The resulting composition was a slurry with no chunks and no foaming.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 or Title

18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

Respectfully submitted,

July 8, 2005

Date

Natarajan Muruganandam

Natarajan Muruganandam